WARNINGS: (1) Ground red (positive) terminal of machine to water, air or gas pipe. (2) In starting and stopping generator, proceed as follows. In starting: Make sure motor switch is turned off, and speed control turned counterclockwise as far as possible; connect to 120 VAC line; turn motor switch on, and bring speed up slowly; the speed control reading should not exceed 8 or 9. In stopping: First, turn speed control to zero then turn off the motor switch. (3) Avoid possibility of scratching aluminum sphere. (4) Never touch the belt. (5) Do not operate with beam tube in place; extensive shielding is necessary to avoid dangerous X-rays.

Explain principle of operation of generator. The following demonstrations are instructive: (1) Bring hand near sphere, noting spark to hand. Bring 4 ½” discharge sphere near large sphere and not fat spark. Bring point (opposite 4 ½” sphere) near, and note character of discharge. (2) Bits of paper tossed toward the top of the charged sphere are first attracted and the repelled. (3) Bring a ping-pong ball, supported on a plexiglass rod and string, close to the sphere. It is first attracted, and then strongly repelled. (4) Place the 10” aluminum disk, with a ping-pong ball, near the sphere. (The separation will be proper if the T-end of the tripod base is placed against the end of the base of the generator.) Bring voltage of generator up until speed control reads between 1 and 2. The ball will bounce back and forth between sphere and plate. (5) With the top of your head toward the sphere and about one foot from the sphere, bring the generator up to normal voltage. The hair (if dry and fine) will stand on end. (6) Have a student (with dry, fine hair) stand on insulated stand and hold 4 ½” discharge sphere within a few mm of the large sphere. The hair will stand on end. With the student still on stand, but with discharge sphere no longer near large sphere, show that the student is charged by having a spark jump from him to you. (7) Place on top of the sphere the 4” aluminum disk accessory. Place in this accessory the plume consisting of many strings 8 to 10” long. Note the behavior of the strings as the voltage is brought up to normal. (8) Place in the disk the electrical mill, and observe the rotation. (9) Show and discuss the beam tube, but do not attempt to use it in the generator without the rather extensive shielding necessary.